Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

REMARKS/ARGUMENTS

Claims 1-24 are pending in the application.

Claims 1-5, 7, 21, and 23 are rejected under 35 USC 102 as being unpatentable over United States PG-Pub 2003/0152076 to Lee et al. (hereinafter "Lee") in view of United States Patent 6,882,654 to Nelson.

Claims 13-20 and 22 are rejected under 35 USC 103 as being unpatentable over Lee in view of United States Patent 5,293,330 to Sayegh.

Claims 8-12 are rejected under 35 USC 103 as being unpatentable over Lee in view of Nelson and further in view of US PG-Pub 2001/0033580 to Dorsey et al. (hereinafter "Dorsey").

Claims 8, 11, 13, 15 and 17 are amended according to the specification. Claims 14 and 18 are canceled without prejudice or disclaimer.

Claim 24 is allowed. Applicant thanks the Examiner for indicating that claim 24 is allowable as written. However, as discussed below, Applicant respectfully submits that the cited references, whether taken alone or in combination, do not teach or fairly suggest each and every element as set forth in claims 1-23. Accordingly, reconsideration and allowance of all claims is respectfully requested.

A. Claim 1

Claim 1 recites an apparatus for processing an encapsulation packet including a data pipeline, a modifier, and selection logic. The modifier is coupled to the data pipeline "for replacing a portion of said encapsulating header with first information contained in said encapsulated packet." (emphasis added). The selection logic includes "an input for receiving selectively programmable second information indicative of a location of said first information within said encapsulated packet, said selection logic responsive to said second information for routing said first information from said data pipeline to said modifier." (emphasis added). Applicant respectfully submits that Lee in view of Nelson does not disclose or fairly suggest at least these elements as claimed.

Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

The Office Action acknowledges that "Lee fails to disclose replacing a portion of an encapsulating header with first information contained in the encapsulated packet." See, Office Action at page 3. Applicant submits that Lee therefore fails to disclose the claimed selection logic which receives information about a location in the encapsulation packet of the first information and which routes said first information from the data pipeline to the modifier where it is used to replace a portion of the encapsulating header.

In support of the rejection, the Office Action mentions Lee's POPOFF field. Id. (citing Lee at [0188]). However, as described in the reference, the POPOFF field is part of policy control instructions (PCIs) maintained at the network processor. See, Lee at [0099], [0102]. Since the PCIs are not part of an encapsulation packet, Lee does not disclose or suggest the claimed selection logic which routes first information contained in the encapsulated packet to a modifier for replacing a portion of the encapsulating header.

Also, as discussed in a prior response, Applicant notes that Fig. 13 of Lee (strip-off and encapsulation engine) does not supply the claimed selection logic and modifier elements. As described in the reference, the strip-off and encapsulation engine simply removes data from or adds external encapsulation data to a data packet. See, Lee at [0193]-[0195]. There is no disclosure or suggestion that this element routes first information contained within an encapsulated packet to a modifier or that a modifier replaces a portion of an encapsulating header with such first information.

Nelson does not cure Lee's deficiencies. The Office Action cites Nelson at col. 7, lines 28-29 as teaching that a portion of an encapsulating header is replaced with information contained in the encapsulated packet. See, Office Action at page 4. Applicants respectfully traverse. In the cited portion of the reference, Nelson describes a transmit command of a TCP Module which includes various information, including an optional encapsulation data field. See, Nelson at col. 7, lines 18-21 ("The encapsulation data field is optional and is merely to enhance flexibility for packet transmission.").

Nelson does not disclose or in any way suggest that the optional encapsulation data field is part of the packet itself. Rather, Nelson simply describes that it is part of the transmit command which, if present, could be used to replace the original packet header by

Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

pointer manipulation. Nelson thus fails to disclose or suggest that first information <u>contained in the encapsulated packet</u> is used to replace a portion of the encapsulating header of the encapsulated packet. Nelson likewise fails to disclose or even suggest that first information is <u>routed</u> by selection logic from a data pipeline to a modifier. Therefore, whether taken alone or in combination, Applicant respectfully submits that the cited references fail to disclose a modifier or selection logic as claimed.

B. Claims 2, 3, 4, 5, 7

Claims 2-5 and 7 depend from claim 1 and incorporate all of its limitations. Accordingly, claims 2-5 and 7 are believed to be allowable over the cited references for at least the reason that they depend from an allowable base claim as well as for their additional limitations.

C. Claims 21, 23

Claims 21 and 23 recite limitations similar to those discussed in connection with claim 1 and each is believed allowable over Lee in view of Nelson for at least the reasons previously given. Claim 21 recites a method of processing an encapsulation packet. The method includes "receiving selectively programmable first information indicative of a location of second information <u>within said encapsulated packet</u>; based on said first information, <u>obtaining said second information from said encapsulated packet; and replacing a portion of said encapsulating header with said second information</u>." (emphasis added). As discussed, the combination of references does not disclose or suggest that second information within an encapsulated packet replaces a portion of the header of the encapsulated packet.

Claim 23 recites an apparatus for processing an encapsulation packet. The apparatus includes "means for receiving selectively programmable first information indicative of a location of second information within said encapsulated packet; means for obtaining said second information from said encapsulated packet based on said first information; and means for replacing a portion of said encapsulating header with said second information." Lee in view of Nelson does not disclose or suggest at least these claimed limitations.

Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

D. Claim 13

Claim 13 recites an apparatus for processing an encapsulation packet. The apparatus comprises "a data pipeline...including a plurality of pipeline stages, each said pipeline stage for holding therein successive ones of said data segments, one of said pipeline stages coupled to an adjacent stage of said pipeline for combining, in said adjacent pipeline stage, part of a data segment currently held in said one pipeline stage with a data segment currently held in said adjacent pipeline stage; a modifier coupled to said data pipeline for modifying said encapsulating header in response to information contained in said encapsulated packet; and selection logic coupled between said data pipeline and said modifier for routing said information from said data pipeline to said modifier." Applicant respectfully submits that Lee in view of Sayegh does not disclose at least these elements.

As discussed in connection with claim 1, Lee does not disclose or suggest selection logic which routes information contained in an encapsulated packet to a modifier, or that an encapsulating header of the encapsulated packet is modified in response to such information. Instead, Lee describes that policy control instructions stored in a memory of the network processor are used to insert information into or strip information from a data packet. See e.g., Lee at [0193]. The PCIs are not part of the data packet. Thus, Lee does not disclose or suggest that selection logic routes information contained within the data packet to a modifier, or that a modifier operates in response to such information. Sayegh is not cited for and does not disclose selection logic or a modifier as claimed.

Beyond Lee's failure to disclose the claimed selection logic and modifier elements, the Office Action acknowledges that Lee does not disclose combining part of a data segment in one pipeline stage with a data segment currently held in another pipeline stage. See, Office Action at page 8.

Sayegh is cited as teaching that data is combined in pipeline stages. Id. (citing Sayegh at col. 9, lines 58-65). However, in the cited passage, Sayegh simply notes that "every type of pipeline has predetermined data groups which must be combined in each stage of the pipeline" and goes on to explain that data is rearranged in the pipeline stages based on delay considerations. See, Sayegh at col. 9, lines 58-68. Sayegh does not disclose or even suggest that

Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

a <u>partial</u> data segment in one pipeline stage is combined with a <u>complete</u> data segment in an <u>adjacent</u> pipeline stage.

Instead, Sayegh simply notes that FFT data samples need to be separated by a predetermined number of stages in the pipeline. <u>See</u>, Sayegh at col. 9, lines 60-63 ("data quads (i.e. sets of 4 data samples) combined in the first stage must be separated by N/4 samples. Data quads in the second stage must be separated by N/16, etc. and data quads in the last stage must be separated by 1."). There is no mention of a partial segment of one stage combined with a complete segment of another stage. Nor is there any mention that such combination occurs between adjacent pipeline stages.

Accordingly, whether taken alone or in combination, Lee and Sayegh additionally fail to disclose or suggest "one of said pipeline stages coupled to an adjacent stage of said pipeline for combining, in said adjacent pipeline stage, part of a data segment currently held in said one pipeline stage with a data segment currently held in said adjacent pipeline stage."

Lastly, Applicant respectfully submits that a person of skill in the art would not be motivated to modify Lee with the disclosure of Sayegh. According to the Office Action, the motivation to combine would be "to maintain a copy of the data at each stage of the pipeline." <u>See</u>, Office Action at page 8. However, Sayegh does not disclose or suggest maintaining a copy of the data at each pipeline stage. Moreover, there would be no reason to keep a copy of data in each stage of Lee's pipeline simply to facilitate stripping information with policy control instructions. <u>See</u>, Lee at Fig. 11. For these operations, there is no need to have a copy of the data in each pipeline stage and no reason is given in the Office Action to explain how duplicate data improves Lee's network processor. Accordingly, Applicant respectfully submits that a person of skill in the art would not be motivated to modify Lee with the fixed-separation of data samples disclosed by Sayegh.

D. Claims 17, 22

Claims 17 and 22 recite limitations similar to those discussed in connection with claim 13 and are believed allowable over Lee in view of Sayegh for at least the reason previously given. Claim 17 recites a method of processing an encapsulation packet. The method includes

Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

"receiving the encapsulation packet formatted as a sequence of parallel data segments...combining a first of said parallel data segments and part of a second of said parallel data segments at a position in said sequence occupied by said first parallel data segment, wherein said first and second parallel data segments are adjacent one another in said sequence." Lee in view of Sayegh does not disclose or suggest that a partial second data segment is combined with a complete first data segment at a position in a sequence of data segments occupied by the first segment.

Claim 22 recites an apparatus for processing an encapsulation packet. The apparatus comprises "means for receiving the encapsulation packet formatted as a sequence of parallel data segment...means for combining a first of said parallel data segments with a portion of a second of said parallel data segments, wherein said first and second parallel data segments are adjacent one another in said sequence." Lee in view of Sayegh does not disclose or suggest at least these elements in the manner claimed.

F. Claims 15-16, 19-20

Claims 15-16 depend from claim 13 and claims 19-20 depend from claim 17. Claims 15-16 and 19-20 incorporate all of its limitations of their respective base claims and each is believed allowable for at least the reason that it depends from an allowable base claim in addition to deriving patentability from its further limitation thereof.

G. Claim 8

Claim 8 recites limitations similar to those discussed in connection with claim 1 and is believed allowable over the cited references for at least the reasons previously given. In particular, claim 8 recites "a modifier coupled to said data pipeline for replacing a portion of said encapsulating header with information contained in said encapsulated packet; and selection logic coupled between said data pipeline and said modifier for routing said information from said data pipeline to said modifier." As previously discussed, Lee in view of Nelson does not disclose or suggest selection logic that routes information contained in an encapsulated packet to a modifier, or a modifier that replaces a portion of an encapsulating header with the information from the selection logic. Dorsey is not cited for, and does not disclose, selection logic or a

Appl. No. 10/662,583
Amdt. dated June 29, 2009
Reply to Office Action of March 31, 2009

PATENT

modifier as claimed. Accordingly, whether taken together or separately, the extended combination of references fails to disclose or suggest each and every element as set forth in the claimed invention.

H. Claims 9-12

Claims 9-12 depend from claim 8 and incorporate all of its limitations. Accordingly, claims 9-12 are believed to be allowable over the cited references for at least the reason that they depend from an allowable base claim as well as deriving patentability from their further limitation thereof. Accordingly, reconsideration and allowance of all pending claims is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,

Steven A. Raney
Reg. No. 58,317

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 858-350-6100
Fax: 415-576-0300
SAR:jlo
62096991 v1